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Signed

*R. Mahoney*

Dated

31st March 2000

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**request for grant of a patent**

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The Patent Office


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2. Patent application numb (The Patent Office will fill in it)		9906584.9	rewith 22 MAR 1999
3. Full name, address and postcode of the or of each applicant (underline all surnames)		Cromptons Leisure Machines Limited 4 Wilton Road Haine Industrial Estate Ramsgate Kent CT12 5HG England United Kingdom	
Patents ADP number (if you know it)			
If the applicant is a corporate body, give the country/state of its incorporation		6054815001	
4. Title of the invention		Article Holding Apparatus	
5. Name of your agent (if you have one)		Elkington and Fife Prospect House 8 Pembroke Road Sevenoaks kent TN13 1XR England	
"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)			
Patents ADP number (if you know it)		67004 ✓	
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7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application	Number of earlier application	Date of filing (day / month / year)	
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8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:	Yes		
a) any applicant named in part 3 is not an inventor, or			
b) there is an inventor who is not named as an applicant, or			
c) any named applicant is a corporate body.			
See note (d))			

# Patents Form 1/77

9. Enter the number of sheets for any of the following items you are filing with this form. Do not count copies of the same document

## Continuation sheets of this form

Description	4
Claim(s)	2
 Abstract	1
Drawing(s)	2 sheets (informal)

10. If you are also filing any of the following, state how many against each item.

## Priority documents

### Translations of priority documents

Statement of inventorship and right to grant of a patent (*Patents Form 7/77*) X

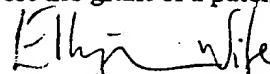
Request for preliminary examination and search (*Patents Form 9/77*) X

Request for substantive examination (*Patents Form 10/77*) X

Any other documents  
(please specify)

11. I/We request the grant of a patent on the basis of this application

Signature

  
Elkington and Fife

Date 22.3.1999

12. Name and daytime telephone number of person to contact in the United Kingdom

Mr John H Lewin - 01732 458881

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## ARTICLE HOLDING APPARATUS

This invention relates to article holding apparatus, in particular as part of an amusement machine.

The invention provides article holding apparatus including means for clearing articles therefrom, the apparatus comprising a surface for supporting an array of articles; at least one aperture in the surface through which articles can pass; and a sweeper arm in sliding contact with the surface, whereby relative movement between the surface and the sweeper arm causes the sweeper arm to sweep at least part of the surface, and the sweeper arm being shaped so as to sweep articles on the surface towards the aperture or apertures.

The article holding apparatus is preferably part of an amusement machine, in particular a horizontal playfield. The articles on the surface are preferably playing pieces, such as coins or tokens.

The relative movement between the surface and the sweeper arm may be achieved by a combination of a movable playfield with a static sweeper arm, or a static playfield with a movable sweeper arm, or both the playfield and the sweeper arm may be movable. In one embodiment, the surface is comprised by a rotatable circular playfield, with at least two, preferably four, equally spaced radial sweeper arms.

The sweeper arm preferably has at least one U- or V-shaped indentation in its leading surface, so that the relative movement between the sweeper arm and the surface causes articles on the surface to be swept towards the apex of the indentation, which is designed to pass directly over one or more of the apertures in the surface.

The invention thus provides an effective method of clearing playing pieces, such as coins, on a moving surface such as a playfield constituting part of an amusement machine. The playing pieces may be projected onto the moving surface during normal use of the amusement machine, and are cleared using a fixed device (sweeper arm) which floats on the surface of the playfield. The device catches the playing pieces and contains them until an aperture in the playfield passes under the device. The playing pieces then fall through the aperture into a chute, and are delivered to a receptacle under the playfield.

Reference is now made to the accompanying drawings, in which:

**Figure 1** is an isometric view of a preferred embodiment of the invention; and  
**Figure 2** is a plan view of a sweeper arm.

Figure 1 shows a circular playfield 1 which rotates in the direction shown by the arrow A. The playfield has an array of marked target areas 6, which form

a part of the game associated with the amusement machine. In the course of the game, coins are projected onto the playfield. Some of the target areas have apertures 2 which are machined into the playfield. The target areas are spaced along four different circular tracks on the playfield.

A fixed metal chassis 3 is positioned above the playfield and divides the playfield into four equal quadrants. The chassis 3 supports four equally spaced radial sweeper arms 4. The chassis 3 floats immediately above the playfield by means of fixings in the centre and circumference of the playfield, thus allowing the playfield to rotate freely. Fixed to each limb of the chassis is a sweeper arm 4 made of a machined block of self-lubricating material, such as oil filled nylon. As shown in Figure 2, this block is shaped to form four U- or V-shaped indentations 7 in the leading surface (with respect to relative movement between the playfield 1 and chassis 3). The indentations are positioned such that the apexes 8 pass directly over respective apertures 2 in the playfield. Thus, the apexes of the four indentations correspond respectively to the four circular tracks along which the target areas (and apertures) are positioned. Each indentation has a shallow sloping side 9 closer to the centre of the playfield, and a steeper sloping side 10 further from the centre of the playfield. Together with the rotary movement of the playfield, this helps to direct the coins towards the apex. Coins on the playfield are thus swept by the movement of the playfield into the

indentations until they reach the apex, and the coins then fall through the apertures as the apex passes over the apertures. Each circular track has one aperture in each of the four quadrants. Coins on the playfield are thus cleared.

Sensors 5 are attached to the chassis 3 so as to sense coins and provide a signal to a control board (not shown), which can be a component of an amusement game.

In a modification of the apparatus described above, the sweeper arm can be made of a metal casting, and provided with wheels on its surface adjacent the playfield surface. Provided the clearance between the two surfaces is small enough, coins can still be swept effectively, and the wheels reduce wear of the two surfaces.



**CLAIMS:**

1. Article holding apparatus including means for clearing articles therefrom, the apparatus comprising a surface for supporting an array of articles; at least one aperture in the surface through which articles can pass; and a sweeper arm in sliding contact with the surface, whereby relative movement between the surface and the sweeper arm causes the sweeper arm to sweep at least part of the surface, and the sweeper arm being shaped so as to sweep articles on the surface towards the aperture or apertures.
2. Article holding apparatus according to claim 1, in which the surface is a horizontal playfield of an amusement machine, and the articles are coins or tokens.
3. Article holding apparatus according to claim 1 or 2, in which the surface is movable and the sweeper arm is static.
4. Article holding apparatus according to claim 2 or 3, in which the surface is a rotatable circular playfield, with at least two equally spaced radial sweeper arms.

5. Article holding apparatus according to any of claims 1 to 4, in which the sweeper arm has at least one U- or V-shaped indentation in its leading surface, so that the relative movement between the sweeper arm and the surface causes articles on the surface to be swept towards the apex of the indentation, which is designed to pass directly over one or more of the apertures in the surface.

6. Article holding apparatus according to claims 4 and 5, in which each indentation has a shallow sloping side and a steep sloping side, the shallow sloping side being closer to the centre of the playfield.

7. Article holding apparatus substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

**ABSTRACT**

The invention provides article holding apparatus including means for clearing articles therefrom. The apparatus comprises a surface (1) for supporting an array of articles; at least one aperture (2) in the surface through which articles can pass; and a sweeper arm (4) in sliding contact with the surface. Relative movement between the surface and the sweeper arm causes the sweeper arm to sweep at least part of the surface. The sweeper arm is shaped so as to sweep articles on the surface towards the aperture or apertures.

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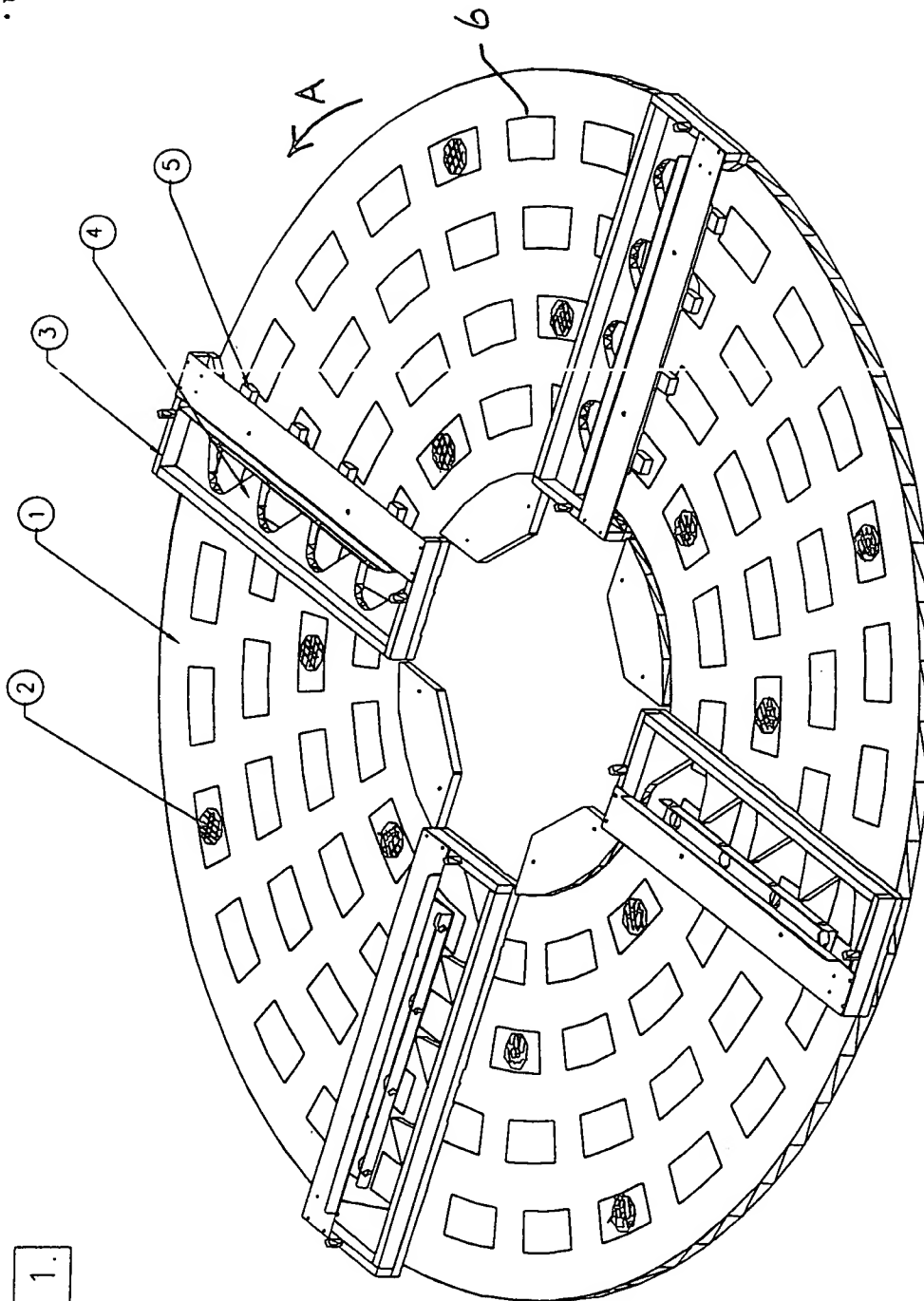


FIG. 1.

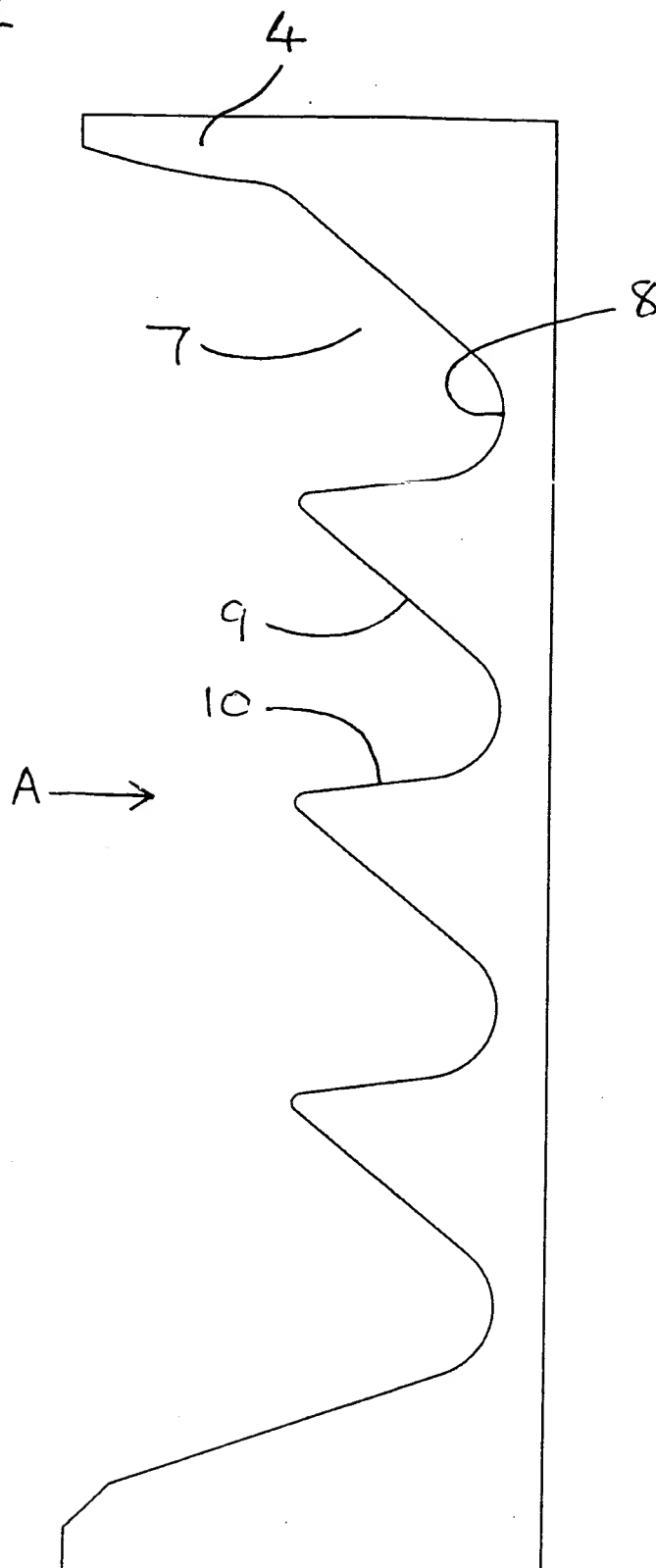
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FIG. 2



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